

## **GENX CHEMICALS AND PFBS CAPE FEAR, NORTH CAROLINA AND PARKERSBURG, WEST VIRGINIA**

### **BACKGROUND:**

- GenX is a trade name for a technology that is used to make high performance fluoropolymers without the use of perfluorooctanoic acid (PFOA). Hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt are the major chemicals associated with the GenX technology. GenX chemicals have been found in surface water, groundwater, finished drinking water, rainwater, and air emissions in some areas.
- Perfluorobutane sulfonic acid (PFBS) is a replacement chemical for PFOS. PFBS has been identified in the environment and consumer products, including surface water, wastewater, drinking water, dust, carpeting and carpet cleaners, floor wax, and food packaging.

#### *Toxicity Assessments*

- EPA released draft toxicity assessments for GenX chemicals and PFBS for public comment in November 2018. The public comment period ended on January 22, 2019.
- As a part of the assessment, EPA developed draft oral reference doses (RfDs) for GenX chemicals and PFBS.
- A reference dose is an estimate of the amount of a chemical a person can ingest daily over a lifetime (chronic RfD) or less (subchronic RfD) that is unlikely to lead to adverse health effects.
- Overall, the available oral toxicity studies show that the liver is especially sensitive to GenX chemicals, and the kidney and thyroid are sensitive to PFBS. EPA has requested public comment on these complex relationships.  
These draft values may change in response to public comment.
- The draft RfD for PFBS suggests it is less toxic than GenX chemicals, perfluorooctanoic acid (PFOA), and perfluorooctane sulfonate (PFOS). The draft RfD for GenX chemicals suggests that they are less toxic than PFOA and PFOS.
- Toxicity is only one piece of information that public officials consider when determining whether there is a risk to public health. Other factors, such as exposure, must also be considered.

#### *Cape Fear Watershed, North Carolina*

- Since 1980, Chemours produced GenX (HFPO-DA) and discharged this substance into the Cape Fear River.
- In 2009, the EPA issued a TSCA Section 5(e) Consent Order to DuPont (now Chemours, since July 2015), in response to a pre-manufacture notice (PMN) submitted by DuPont, which required health and environmental testing, and specific regulatory controls to mitigate worker exposures, environmental releases, and the amount of impurities permissible in the final polymers.
- In 2015 and 2016 scientists from EPA's Office of Research and Development and collaborators, published papers that first identified the presence and then quantified GenX chemicals and other per- and polyfluoroalkyl substances (PFAS) in the Cape Fear River as well as in downstream public water systems. These papers did not contain any health effects information regarding GenX chemicals.

#### *Parkersburg, West Virginia*

- Since the early 1950s, DuPont manufactured Teflon at its Washington Works facility west of Parkersburg, WV, which used PFOA in the Teflon manufacturing process.
- Since 2002, EPA Regions 3 and 5 have issued a series of Safe Drinking Water Act (SDWA) Orders to DuPont and, later, the current facility owner, Chemours, to address PFOA contamination of public and private water supplies in West Virginia and Ohio.
- The Orders have required DuPont and Chemours to test hundreds of water supplies within designated areas in those two states.
- GenX chemicals replaced PFOA in 2013 in the Teflon manufacturing process.

- Recent monitoring has identified low levels of the GenX compound in the untreated ground water that serves as the source of several public and private water supplies near the Washington Works facility.
- The carbon treatment in place for each of these water supplies has been effective in removing GenX in the finished water.
- Regions 3 and 5 requested Chemours to continue sampling wells on a quarterly basis where GenX was found in the untreated water and Chemours has agreed to do so. EPA is posting the GenX results online.
- EPA continues to monitor this ongoing effort to ensure the companies adhere to the orders.

**TALKING POINTS:**

## **Ex. 5 Deliberative Process (DP)**